

Commercial Policy Group Guideline No 8 - Earned Value Management Commercial Issues

1. Earned value is an objective measurement of how much work has been accomplished on a project. Earned Value Management (EVM) is a management and planning/monitoring tool that relates resource planning to performance, cost and time requirements and informs risk and opportunity assessment. It is a technique employed by some companies to manage their own programmes.
2. Within the Ministry of Defence, responsibility for guidance on EVM rests with the Pricing and Forecasting Group who meet with industry under the auspices of the Defence Industry Earned Value Management Implementation Group (DEVMIG).
3. The Commercial Policy Group (CPG) was requested to examine the commercial aspects of EVM and produce joint guidance in order to assist in understanding and promoting the use of EVM. Following a number of discussions within a CPG Working Group the attached joint Guideline has been agreed.
4. Further activities will be undertaken by the DEVMIG (or the CPG working group) to produce further detailed guidance and to plan awareness training. It should be noted that there is a separate CPG strand of work on incentivisation that will address interim payments and other incentive initiatives that may be relevant to the application of EVM.
5. The operation of this guidance will be reviewed periodically by the CPG in the light of implementation experience, particularly with regard to the initial minimum threshold and the target timescales for establishing EVM systems in contract.

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Earned Value Management Commercial Issues

1. In implementing EVM, the Ministry of Defence (MOD) has drawn on the experiences of other nations and developed a policy that encourages the adoption of EVM for defence procurement as a project management tool of best practice.
2. Some major Integrated Project Teams (IPTs) and defence suppliers have adopted EVM where appropriate and are committed to ensuring effective application. In addition, we are beginning to see IPTs involved in major future programmes seeking to establish an EVM culture internally, as a means of managing the Department's activity, as well as making EVM reporting a contractual requirement.
3. In May 1998 CDP gave his support for the adoption of EVM for defence procurement and since then, over 30 IPTs have applied EVM in varying degrees of maturity. On 17 April 2003 CDP detailed a number of project management reform measures to be adopted on those projects featured in the Major Project Report to Parliament and which would also be considered as a benchmark for good practice across the board. EVM was highlighted as an important tool to be applied to all major projects and major sub-contracts (see Annex A). In addition, some companies have adopted EVM as a tool of best practice for their own internal management purposes.
4. Discussions within the joint MOD/Industry Defence Industry Earned Value Management Implementation Group (DEVMIIG) highlighted a number of commercial issues that need to be addressed in order to assist in the adoption and use of EVM. The CPG agreed to form a MOD/Industry Working Group to explore the issues and, where possible, produce common guidance. The CPG WG was formed in August 2002 to consider the commercial issues in order to help facilitate the appropriate use of EVM.
5. The Working Group concluded that there are a number of commercial issues that could be addressed in a CPG Guideline with the aim of assisting in the development and application of EVM. The Group listed and agreed a number of key factors that would need to be addressed in all instances, which are detailed in Annex B.

Extract from CDP Letter dated 17 April 2003 to Major Defence Suppliers And Trade Associations

Project Management Reform

"In assessing the project management arrangements to be applied to a contract, the DPA will look at the complexity of the contract and three key features - control, assurance of control and senior employee incentives. We shall wish to agree with the contractors how control and assurance will be managed and reported in the relevant contracts. We will be particularly concerned with the formality of arrangements for those contracts delivering the so called Major Projects which are subject to annual reporting by the NAO, but would consider for the principles as representing good practice across the board."

"b(i) Earned Value Management. We expect this system to be established and running within 3 months of contract signature (or relevant major amendment) and that its establishment will attract a contract milestone payment. The operation of the EVM system should measure progress by the outcomes achieved rather than the level of effort employed. Further, this discipline should be applied to major sub-contracts wherever the operation of the overall EVM system is vulnerable to 'level of effort' assumptions. There should be monthly (preferably weekly) updates of the EVM system. Any re-baselining or significant remedial action should be approved by the appropriate company Board Member and formally notified to the relevant DPA Executive Director; monthly data is to be disclosed promptly to the MOD IPT by company Cost Account managers."

Earned Value Management – Commercial Issues Key Factors

The following key factors represent the broad principles to be addressed by MOD and Industry in respect of the commercial issues associated with EVM. Establishing the right relationships and behaviours between MOD and defence suppliers, as set out in the CPG Codes of Best Practice, is also essential to the successful implementation of EVM.

1. Standards

- a) There is tension between various standards available and the reasonable desire by Industry for a common approach. Differences in standards being used by IPTs may raise problems for tender compliance, which could lead to additional Industry costs and exacerbate resource constraints.
- b) Various national standards exist. On collaborative programmes with the USA, the US system would probably prevail. A new Australian standard has been published. In the UK the Association for Project Management (APM) has developed a guide which is equivalent to the US ANSI standard. It is a goal of the joint Defence Industry Earned Value Management Implementation Group (DEVMIG) to develop or adopt a standard acceptable to MOD and Industry for UK defence projects.
- c) It is recognised that all projects have specific needs and a reasonable approach would be to build on current industry systems keeping extra requirements to a necessary minimum. A particular standard is not preferred at this time (see 1.(b)); the main requirement is for robust data to be available from the EVM system.

2. Costs of EVM

- a) MOD supports the use of existing company systems where possible and does not seek to impose the use of a particular tool set. Initial start up costs to validate EVM can be high for contractors new to the approach. If an EVM system were introduced as a special requirement for a specific MOD contract or in a manner substantially different from the normal operations of a company, then recovery of the additional costs as a direct charge may be appropriate.
- b) For non competitive contracts, these additional costs will be identified and agreed as part of the Contract Price and need to be taken into account, together with any necessary MOD resources, when considering the extent and nature of project management reporting requirements for a programme.

3. Pre contract award & application to ITTs

- a) It is important that a balance is struck between the amount of EVM information requested as part of an ITT response and the burden that this places on the supplier. Establishing the plans and processes required to generate EVM data can be costly and represents a significant commitment for a supplier.
- b) Current experience indicates it is sufficient to seek a commitment to EVM at the ITT stage and use the Contractor's description and supporting information of how it will establish/implement EVM as a basis for pre-qualification and assessing bids. The ITT will outline the requirements for an Integrated Baseline Review (IBR) and the target timescales for its implementation and agreement. The ITT will also declare the weighting associated with the evaluation of the contractor's proposals to establish and implement EVM reporting.

4. Post Contract Award

The establishment of a project specific EVM system (including the IBR) is a key stage and should be implemented within 6 months of contract signature, with implementation linked to a contract milestone payment.

5. Application

- a) EVM is currently applied mainly to 'major projects and major sub-contracts'. Although the technique can be employed on many types and size of contract there will be some circumstances where other project management techniques, eg Line of Balance, may deliver more appropriate information. Examples where caution is needed in seeking the use of EVM are where the baseline is fluid, large production runs, standard products and contracts for the provision of services. In all cases, a pragmatic approach is needed.
- b) While Industry may be reluctant in a competitive environment to provide data in cost rather than price terms, the granularity of data and level of reporting in the work breakdown structure is key to the utility of reports. Too high a level of reporting could mask trends. Too low a level and unnecessary bureaucracy and wasted effort in the preparation and analysis of data may be involved. If EVM is accepted to be applied in some form the information available must still be suitable for monitoring progress.
- c) EVM should not normally be applied retrospectively to current contracts. However, there could be an exception to no retrospective application where a contractor has been operating EVM internally on the programme and agrees to provide MOD with access to the reports from his system. If a major change to a contract occurs then EVM may need to be considered for that change alone if it can be managed and monitored independently.

6. Supply chain flow-down

a) The extent and nature of EVM flow-down to the supply chain would be established at the tender stage, and would depend on what is appropriate in the circumstances to meet the need having regard to programme risk, size and complexity. SMEs may see unnecessary flow-down as a risk, where the approach might not yield best value and could be a drain on resources.

b) The application of the EVM throughout the supply chain has been varied and will depend on the criticality of the supplies to the overall endeavour. There has been an unwillingness to pass commercially sensitive data up the supply chain in some industrial sectors. It is recognised however that the approach to relationships set out in the CPG Codes of Best Practice would serve to encourage a more suitable environment where competitive pressures do not intrude on the relationship. Equally it is recognised that there may be circumstances where both major sub-contractors, and/or SMEs would be reluctant to pass some types of sensitive data through main contractors.

c) The key requirements for both MOD and the main contractor are to be able to measure progress leading to objective assessment and the early prediction of possible problems. If the main contractor's responsibility for the management of his subcontractors is to be preserved, the preference must be for all EVM data to flow from the subcontractors through the main contractor. However, it is recognised that there will be occasions where commercial confidentiality will require alternative arrangements for some data. Given the right working relationships, it should be possible to devise data flows that preserve confidentiality (e.g. using the single source sub-contract pricing methodology, where MOD has access to sensitive information) whilst allowing visibility of the issues to the main contractor at the appropriate level, and without MOD circumventing the supply chain responsibilities. Each party would however require a clear understanding of how data would be managed between the parties, and its expected content. The extent and nature of the EVM flow-down to sub-contractors and the need for any special arrangements to protect commercial confidentiality and ensure timely payment of EVM elements would need to be clearly agreed and recorded at the outset.

7. Threshold

The application of EVM should be pragmatic, taking into account contractors' capabilities, the need for EVM and other adequate forms of project management reporting. Suitable project management reporting arrangements are required, informed wherever possible by contractor systems that are appropriate, readily available and accessible. The form of reporting needs to be commensurate with the programme and the costs involved. Accordingly, although a decision to use EVM may not be based solely on the value of a programme, it is expected that, initially, EVM will be applied principally to contracts whose value exceeds £15M. But EVM can also be applied below that level, for example, in circumstances

where the contractor is already operating an EVM system that is producing acceptable EVM reports. 8 Interim payments linked to EV

a) Earned Value (EV) can be used as a reference for payment against progress of work. These payments can be used in combination with a Milestone Payment Plan. Where payment by EV has been agreed in principle, it is important to agree an appropriate balance between EV payments and milestone payments. EV payments can be as low as 10% but should not exceed 70% of the total value of interim payments in any given period. Current practice is to report against EV and pay against EV monthly, together with payments linked to milestone events.

b) In establishing payment arrangements, it is necessary to agree the criteria for assessing the balance between payment based on EV and on milestones at the outset (e.g. by reference to the nature of work and the major events in the programme). If the contractor is to be paid in part by reference to EV it is normal for the completion of the Integrated Baseline Review to be recognised as a significant milestone payment.

9. Contract changes

a) Change management is a major risk to effective EVM and a poor process could render EVM reports useless. The more fluid the baseline, the more difficult it is to keep it up to date. Changes in requirement and programme methodology need to be reflected in the baseline promptly. It is important to consider whether, and when to re-baseline in the light of significant changes.

b) The decision on when and how to change the baseline rests with the contractor. However, some agreed ground rules will be necessary to provide visibility and confidence about the impact of contract change management on the reporting process. Where changes are significant, the parties should agree how the baseline is affected. If payments are linked to EV, then the Contractor would need MOD agreement to re-baseline.

10. Use of Data

a) MOD generally have had access to a wide range of industry financial data, e.g. from price investigations, overheads and annual agreements on profit, etc. The obligation to protect commercially sensitive information is enshrined in MOD procedures and reflected in the CPG Codes of Best Practice. However, MOD cannot ignore information that it has been given and which is relevant to the conduct of its business.

b) Industry acknowledges that although MOD holds information that has been acquired for a number of different purposes it cannot prevent MOD from drawing inferences from that information. However, EVM data is provided to MOD only for project management purposes and may often represent 'work in progress'. As such, it may not have been subject to the full accounting and governance rigours that are required for cost

certification, e.g. in post costing or TCIF pricing. Industry would therefore not expect to warrant the data for use for any other purpose other than in the context for which it is supplied. EVM data will not replace quotations for future work or gain-sharing proposals, or certificates required for post costing or pricing cost-based contracts.

11. Reporting

If EVM is to be used, EVM reporting requirements are to be specified in the ITT. Reporting frequency should be addressed on a project by project basis. Monthly reporting is likely to be acceptable to MOD although alternative frequencies may be agreed where appropriate. Contractors should not rely solely on EVM reports to inform MOD immediately of any significant problems. Adverse EVM reports should be taken in the context of other reports and project activities in considering what remedial project management action should be taken.

12. Conclusion

EVM is expected to be applied to all major contracts and sub contracts as appropriate, initially at a value threshold of £15M or more. EVM can apply below that level by agreement. The application and use of EVM will depend on the criticality of the programme and the benefit to be gained from using EVM as a project management tool in contrast to other suitable tools that are available. If, given the type of contract, it is agreed that the contractor's current systems provide a more appropriate means of monitoring and reporting progress then these should be used in preference to EVM. There will need to be a balance between the scale of EVM reporting (and the uses to which it is put) and the utility of the information gained from it. Establishing the right relationships and behaviours between MOD and the contractor is essential to the successful implementation of EVM.